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DISTANCE LEARNING:  
THE NEED FOR A TOTAL FORCE  
VISION AND STRATEGY

by

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## *Contents*

	<i>Page</i>
DISCLAIMER .....	II
PREFACE .....	V
ABSTRACT .....	VI
INTRODUCTION.....	1
Benefits of Distance Learning.....	2
Reserve Component Requirements .....	3
Redirection of USAF Distance Learning.....	4
RESERVE TRAINING PROBLEMS, EFFECTS, AND SOLUTIONS .....	5
Problems .....	5
Time Factor .....	7
Availability Factor .....	8
Accessibility Factor .....	8
Negative Effects.....	9
Partial Solutions.....	11
Just-In-Time Training .....	11
Training Reduction Working Group .....	11
Training “Clearinghouse” Concept.....	12
Grassroots Academy .....	13
Distance Learning .....	14
Need for a Better Distance Learning Solution.....	15
USAF DISTANCE LEARNING STRATEGY.....	17
Distance Learning Plans .....	17
AFDLO Strategic Plan.....	18
The Distance Learning Roadmap.....	25
Assessment Summary .....	28
RECOMMENDATIONS FOR TOTAL FORCE DISTANCE LEARNING .....	31
Senior Leadership Commitment .....	32
Create a New Vision .....	33
Reorganize for Success .....	34
Plan to Plan .....	35
Develop a Model.....	36

Benchmarking .....	37
Conclusion .....	40
BIBLIOGRAPHY .....	41

## *Preface*

As a former group and squadron commander of two Air Force Reserve units, I know that getting part time “traditional” reservists trained is the biggest challenge we have in the reserves. The Air Force Reserve desperately needs a solution to its training problems. Distance learning can provide the answer. The active component USAF has been implementing technology based distance learning programs for several years, but its progress seems slow and tentative. This research was undertaken to educate others on the need for distance learning within the reserves. It is also intended to generate support for a joint partnership between the active USAF component and the Air Force Reserve Command to formulate a new vision and strategy for distance learning; one that will satisfy the needs of the total force.

My sincere thanks goes to the Air Force Distance Learning Office (AFDLO) for their cooperation and assistance in this research, especially Lieutenant Colonel Fred Vornbrock. AFDLO invited me to participate in the USAF distance learning forum and provided me the most current information on distance learning programs and initiatives. I am also grateful to Colonel Karen Wetzel, AFRC/DPT, for her valuable insight into the reserves’ distance learning issues and to Major Larry Lee, AFRC/DPTS, for his assistance. Many thanks go to my research advisor, Lt Col Steve Szafarz, for his patience and assistance in helping me to focus my efforts. Finally, I would like to thank my husband, Sam E. Pennartz, for his love and support during the entire process

### ***Abstract***

Educating and training its military personnel is an enormous challenge for the Air Force Reserve for three reasons. First, there are too many training requirements and not enough time to accomplish them. Second, the availability of part time reservists to attend resident courses is constrained. Third, accessibility to resident courses is limited even when reservists can find time to attend. Since a military member's knowledge and skill translate directly into combat capability and readiness, resolving these training problems is a great concern among senior leaders within the Air Force Reserve Command (AFRC). Distance learning can provide the solution.

The fundamental concept of distance learning is that "students and teachers are separated by distance and sometimes by time." This aspect of distance learning is especially relevant for over 73,000 part time Air Force reservists. Distance learning can provide the flexibility and control these members require to accomplish education and training without impacting their family lives or civilian jobs. The Air Force Reserve is currently taking advantage of some USAF distance learning courses, however, the Air Force Reserve needs to take distance learning further than where it has gone and where it is going in the active Air Force. Reservists need distance learning capabilities that provide training anytime and anywhere. This paper proposes that the AFRC work in partnership with the Air Force Distance Learning Office (AFDLO) to develop a new vision and strategic plan for implementing a Total Force Distance Learning System. It

presents an in depth look at the Air Force Reserve's training problems, their detrimental effects, and some partial solutions. The current USAF distance learning strategy is examined for relevance and adequacy in meeting the reserves' needs. Recommendations for the AFRC to reshape and revitalize the current USAF distance learning strategy are put forward.



## Chapter 1

### Introduction

*Distance learning is structured learning that takes place without the physical presence of the instructor. Key attributes are the existence of a formal curriculum with evaluation of learning, and physical separation between the instructor and the learner. Additionally, the student must be able to contact the instructor with questions and a recognized institution must sponsor the course. The course must be deployed outside the confines of the resident schoolhouse or campus.<sup>1</sup>*

#### Distance Learning Roadmap

Educating and training its military personnel is an enormous challenge for the Air Force Reserve. There are three major problems that make it so challenging. First, there are too many training requirements and not enough time to accomplish them.<sup>2</sup> Second, the availability of part time reservists to attend resident courses is severely constrained by their civilian employment. Third, class size, quotas, rigid scheduling, and limited offerings often block reservists' accessibility to courses even when they can find time to attend.

Since a military member's knowledge and skill translate directly into combat capability and readiness, resolving these training problems is a great concern among senior leaders within the Air Force Reserve Command (AFRC). To deal with the issue of too many requirements and not enough time, the AFRC Executive Group has undertaken an initiative to reduce, eliminate or combine some training events. The training problems

related to reservist availability and course accessibility, however, have not been adequately addressed. Therefore, I propose that the Air Force Reserve embrace a more comprehensive solution that can resolve all three problems impacting the training of its citizen airmen. In my opinion, that solution is distance learning.

### **Benefits of Distance Learning**

Although distance learning programs have several key attributes, the fundamental concept of distance learning is that “students and teachers are separated by distance and sometimes by time.”<sup>3</sup> This aspect of distance learning is especially relevant for over 73,000 part time Air Force reservists who are away from their military units most of the time.<sup>4</sup> These reservists often have full time civilian careers around which they must schedule their military obligations. Distance learning can provide the flexibility and control these members require to accomplish education and training without impacting their family lives or civilian employment. Distance learning technologies can also increase access to required training by making courses available without the constraints of class size, quotas, schedules or the number of class offerings. Student availability and course accessibility can both be increased through distance learning programs in which training time and location are tailored to the convenience of the student.

Besides offering a solution to the problems of reservist availability and course accessibility, distance learning can provide the added benefit of cost reduction while maintaining the highest standards of quality education and training. Savings can be realized in reduced travel expenses and schoolhouse infrastructure costs. Costs per student can also decrease as distance learning courses reach larger audiences. Furthermore, studies have shown that properly designed distance learning courses can

provide the same, and in some cases a better, level of quality instruction as resident courses.<sup>5</sup>

## **Reserve Component Requirements**

The benefits of improved access to training and lower costs, without compromised quality have made distance learning an appealing educational alternative for the active duty United States Air Force (USAF). The Air Force Reserve is currently taking advantage of some USAF distance learning courses provided mainly through paper correspondence, Interactive Video Disc (IVD), CD-ROM, and Interactive Video Teletraining (IVT or VTT). However, the Air Force Reserve needs to take distance learning further than where it has gone and where it is going in the active Air Force. The distance learning requirements of the part time reserve force are greater and different than those of the full time active duty force. For example, while the active duty member may be able to attend a VTT class offered during normal working hours, the reservist may need to attend the distance learning class in the evenings or on the weekends. Reservists need distance learning capabilities that provide training anytime and anywhere.

Developing a distance learning program with this capability requires a major commitment of time, money and personnel. It is a complex undertaking that includes requirements analysis, technology and design selection, course development, implementation, evaluation and management.<sup>6</sup> Although the active component USAF has a strategy for expanding current distance learning programs, I believe its plan is too restrained and does not fulfill the special needs of the reserve components.

## Redirection of USAF Distance Learning

I propose that the AFRC work in partnership with the Air Force Distance Learning Office (AFDLO) to develop a new vision and strategic plan that will ensure a Total Force Distance Learning System. A more in depth look at the Air Force Reserve's training problems, their detrimental effects and partial solutions are presented here to illustrate the importance of distance learning to the reserves. This survey is followed by an examination of the current USAF distance learning strategy to determine its relevance and adequacy in meeting the special need of the reserves. After covering those areas, I put forward a set of recommendations that the AFRC should follow to reshape and revitalize the current USAF distance learning strategy.

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<sup>1</sup> Air Force Distance Learning Office, "The Distance Learning Roadmap," (draft) February 1998, 4.

<sup>2</sup> Bo Joyner, "Attacking the Training Problem," *Citizen Airman* 50, no. 1 (February 1998):2.

<sup>3</sup> Michael G. Moore and Greg Kearsley, *Distance Education: A Systems View* (Belmont, Ca.: Wadsworth Publishing Co. 1996) 1.

<sup>4</sup> Headquarters Air Force Reserve Office of Public Affairs, Air Force Reserve Pamphlet,(Robins AFB,Ga. 1994) 5.

<sup>5</sup> Moore, 62-65.

<sup>6</sup> Moore, 1.

## **Chapter 2**

# **Reserve Training Problems, Effects, and Solutions**

### **Problems**

Training presents a complex challenge for the Air Reserve Component based on three key factors: time, availability and access. By the very nature of their part time status, reservists have less time for training than their full time active duty counterparts; yet, the requirements for both are essentially the same. Many part time reservists also hold full time civilian jobs which make them mostly unavailable to attend formal resident courses which can range from a few days to months in duration. Even when a reservist is available to attend a resident course, accessibility is sometimes a problem because of class size limitations; lack of quotas available for reservists; inconvenient dates; or scarcity of courses offerings.

There are numerous training requirements for military personnel. Some career fields have more requirements than others. Training falls into various categories. Training not related to a particular AFSC includes ancillary training, career development training, and professional military education (PME). There is other training required to become qualified or proficient in a particular AFSC or position. This includes initial skills training for award of the 3-skill level AFSC; skill level upgrade training (3,5,7,9 levels); specialty training; proficiency training, and qualification training. The administration and

management of all these training requirements is in itself a labor intensive and time consuming process.

Training is accomplished in various locations and through different methods. Most training is conducted right in the member's unit or on the member's base. Ancillary, skill level upgrade, qualification and proficiency training usually fall into this category. Some training is normally accomplished by attending a formal course in residence at various central locations. This includes initial skills training, career development courses, PME, and some advanced skills training. Within the USAF, a number of resident courses are already available through distance learning means such as paper correspondence, CD-ROM or VTT.

Much of a reservist's training is on-the-job (OJT) training which requires demonstration of proficiency in certain skills or tasks. This type of training is predominant in skill level upgrade training. Individual trainers are assigned to trainees for upgrade training. This type of OJT is often supplemented by informal courses that include lectures, briefings, videos or other presentation methods. A few of these informal courses are available on interactive video discs (IVD). Within the reserves, there are now efforts underway to expand the use of computer based training (CBT) for these informal courses.

With this broad overview of the scope and complexity of military training requirements, we can now look more closely at the factors that make educating and training reservists such a challenge.

## **Time Factor**

Time is a scarce commodity for approximately 73,000 part time reservists. Of those, more than 65,000 are unit reservists who at a minimum are required to train two days every month during the Unit Training Assembly (UTA) weekends plus an additional 14 days of annual tour. This minimum requirement equates to an average of just over 25 hours a month of available duty time for these “traditional” reservists. Compare this to about 149 hours a month that the active duty military member has available and one can appreciate the problem that exists for part time reservists trying to complete their training requirements.<sup>7</sup> Despite this disparity of 124 available hours per month between active duty members and reservists, the training requirements for both are much the same. According to Major Larry Lee, AFRC/DPTS, any deviation from training requirements mandated by an Air Force Instruction (AFI) requires special approval from the USAF functional manager responsible for the training.

In addition to training events, unit reservists must attend to other activities in their limited duty time. Reservists comply with medical physicals, dental exams, immunizations, commanders calls, inspections, exercises, administrative tasks and other activities just like their active duty counterparts. All of these additional requirements take away valuable time for training.

The current high operations tempo that the reserves are sustaining is another factor that takes time away from training. Reservists are supporting real world military operations around the globe everyday right alongside the active duty forces. In the past six years, reservists have been involved in over 31 contingency operations.<sup>8</sup> When reservists who are trainers or instructors are deployed, they are unavailable to conduct training for other reservists at their home station. Deployed reservists themselves will

usually be unable to complete many of their own training requirements. Performing the primary mission is the top priority at the deployed location, so training tends to take a back seat in such circumstances. Even when there may be some time available for training, often the required instructors, materials, equipment or facilities are unavailable. The operations tempo for reservists is likely to remain high and therefore, training time will continue to be at a premium.

### **Availability Factor**

Availability of reservists to attend formal courses in residence is another problem for part time reservists. While many dedicated citizen-airmen spend additional duty days to keep up with the training workload, most have full time civilian careers that make it difficult and often costly to spend extended periods away from their jobs. Reservists with full time civilian jobs often train during weekends in addition to their normally scheduled UTA. However, with formal courses that are offered only during the week and require a successive number of days, workarounds are not as easy. Reservists have only limited employment protection rights when their participation is in voluntary status, as opposed to a recall or mobilization status.

Deployments are an exacerbating factor in availability as well. A reservist who has spent three weeks in Bosnia or Southwest Asia, for example, may not be able to spare additional time to attend a course that he or she may have attended otherwise.

### **Accessibility Factor**

Even when traditional reservists do not have full time civilian employment to affect their availability for training, there is still often a problem of accessibility. The Air Force Reserve relies mainly on the active USAF for its formal in residence education and



training. The reserve component makes up about 30 percent of the student customer base for the USAF.<sup>9</sup> The constraints of class size and quotas affect the ability of reservists to obtain slots in many of these courses. For example, a formal school with 27 allotted spaces may allow for 20 active duty students, 3 Air National Guard (ANG) students and 4 Air Force Reserve students. Reservists from every unit then compete for the 4 reserve slots. Most of the slots are managed on a first come, first served basis.

The in residence quotas for PME are also limited for reservists. Within the Air War College (AWC) for example, only 7 positions out of 261 students in the 1998 class were allotted to officers from the Air Force Reserve. Allocation of these AWC quotas is based on competitive selection among all reserve applicants. The other USAF resident PME schools for officers and non-commissioned officers (NCO) have quotas for reservists as well. Fortunately, there are alternative methods for completing PME besides the resident programs. However for many other formal resident courses there are no alternative methods.

Another factor in accessibility is that course scheduling is predetermined and may not fit the needs of a part time reservist who is scheduling a course around the demands of a full time civilian job. A course may not be offered at the time the reservist is available.

### **Negative Effects**

Since most training requirements are critical and can not easily be reduced, eliminated or waived, the inability to complete education and training can become a major factor in recruiting, retention and readiness. The inability to attend in residence courses may become especially troubling for recruiting reservists in the 21<sup>st</sup> century.

Currently, 93 percent of aircrew members and 86 percent of support personnel within the Air Force Reserve have prior military service.<sup>10</sup> However, as the active duty drawdown continues, the recruitment pool of people with prior military service will decrease. Non prior service accessions are expected to increase significantly within the next five to seven years.<sup>11</sup> As the reserves come to rely more on these non prior service accessions, the training burden as well as the costs will increase. New reservists will not come already trained from previous active duty tours. Members seeking to join the reserve may be unwilling to make the commitment if their initial skills school requires a significant amount of time away from their civilian jobs and families. Therefore, the training commitment is likely to impact the reserves ability to attract new recruits.

For reservists currently serving, the training problem is also frustrating. Even when reservists have met the minimum mandatory training requirements, advanced training that enhances the skill and knowledge of the member is often difficult to attain. When members cannot progress in their specialties because of an inability to complete required training or courses, they may be forced to leave the service. In the case of career and professional development education, the inability to complete some courses impacts the member's promotion potential. Morale is lower when people do not feel adequately trained to do their jobs. These issues have serious ramifications for retention.

The inability to accomplish training in a timely and effective manner also affects readiness and combat capability. Readiness is degraded when people are not adequately trained to do their jobs. Safety becomes a serious concern if poorly trained personnel are allowed to operate or maintain equipment.

## **Partial Solutions**

Several initiatives have been undertaken by the AFRC senior leadership in an effort to find solutions for the Reserve's overwhelming training problem. These initiatives include a proposal for "just-in-time" training; a Training Reduction Working Group to address ancillary requirements; and the establishment of a training "Clearinghouse."

### **Just-In-Time Training**

The "just-in-time" training proposal required each reserve wing to put forward recommendations on what training could be provided to reservists just prior to deployment. Based on the wing inputs, this initiative attempted to replace certain continual recurring requirements with "just-in-time" training. Although this proposal was popular among unit level commanders and supervisors, and strongly supported by AFRC senior leadership, it failed to materialize due to resistance from the functional area managers. Some of this resistance stemmed from the amount of training that would be required in the relatively short times before deployment if this program was instituted. Other issues centered on the availability of assets to train personnel in large numbers in a short time.<sup>12</sup> For example, limitations of ranges and ammunition for small arms training (one of the "just-in-time" candidates) would likely stress the system. In any case, this initiative did not result in a significant training reduction.

### **Training Reduction Working Group**

Another AFRC initiative to deal with the traditional reservists' problem of time and availability for training was to reduce some training requirements themselves. Faced with an enormous training backlog, the AFRC Executive Group, composed of the Air Force Reserve Commander, Air Force Reserve Vice Commander, and the Numbered Air

Force Commanders formed a working group to look at this issue. The group's charter was to look at possibly eliminating, condensing or changing the frequency of some ancillary training requirements. Ancillary training is usually conducted at the unit or base level. Ancillary requirements include such things as small arms training, chemical warfare training, equal opportunity training, and other courses that are not considered Air Force Specialty Code (AFSC) awarding. Guidelines for the frequency and duration of these ancillary training courses emanate from the USAF functional manager. According to HQARFC/DPT there are between 50 and 75 annual training hours required for ancillary training alone, depending on the functional area. The working group was able to decrease these hours by as much as 34 total hours per year for some career specialties by changing the frequency of some requirements and combining some courses.<sup>13</sup>

### **Training “Clearinghouse” Concept**

A more recent AFRC initiative is aimed at expanding the training reduction effort. This ambition resulted in a formalized process designated as the “Clearinghouse” Concept. The “Clearinghouse” has been established to serve as the MAJCOM focal point for training reduction and management of new training requirements. HQ AFRC/DPTS will serve as the AFRC Clearinghouse and formal inclusion of this concept into Air Force Manual 36-8001, Participation and Training Procedures, is anticipated. The charter of the Clearinghouse is to lead MAJCOM functional managers in the effort to reduce the training burden by addressing the impact of new training requirements; promoting the evolution of different mediums of instruction; and addressing changes to existing requirements. The Clearinghouse charter also requires the building and maintaining of a database containing prioritized training requirements (except AFSC skill awarding).

According to Major Lee, the AFRC functional managers must compile their lists of all non AFSC awarding training requirements by August 1998. The functional managers must also identify the directive which mandates each training requirement. Each functional manager will then be required to review and certify these training requirements, distribute them to the field and to revalidate the list annually. It is too early to access the outcome of this initiative, but a key limitation is that it does not address AFSC awarding training.

### **Grassroots Academy**

While AFRC senior leadership has been concentrating on training reduction efforts, a different, technological approach to simplifying training has bubbled up to the AFRC headquarters. This effort, now dubbed the “Grassroots Academy” by AFRC/DPT began at McClellan AFB where a fuel systems mechanic developed a computer based module on “confined space” training for KC-135 aircraft fuel systems specialists. Using a software program called CI Toolkit, the NCO was able to develop a course that mechanics can take in an hour and 20 minutes using a laptop computer. The previous training took 3 ½ hours using lectures and video. The program has proven to be a great success. According to its designer, Technical Sergeant Dave Bates, not one person has failed the certification test following the training and everyone taking the computer based course has preferred it to the old way.<sup>14</sup>

The “Grassroots Academy” is a program that will involve the development of computer based training (CBT) capability within individual reserve units. The Grassroots Academy is considered by AFRC to be the 80 percent solution for resolving the overwhelming training requirements facing reservists.<sup>15</sup> The AFRC functional managers

will work hand in hand with their base level counterparts to develop and manage future CBT courses using in house personnel expertise. A database of CBT courses will be maintained on the AFRC/DPT Home Page so other units can share their development efforts. While AFRC has purchased 19 notebook computers and a digital still camera to aid in the CBT process, no additional funding or manpower has been identified for the “Grassroots Academy” effort at this time.<sup>16</sup> With further refinement, the “Grassroots Academy” effort may eventually become part of a broader distance learning program. The active Air Force can benefit from the “Grassroots Academy” initiatives because in many cases the courses developed are also applicable to the active force. The AFDLO should pursue broadening this CBT development effort through funding and encouraging a cooperative effort among the MAJCOMs. The AFDLO Home Page should include a link to the AFRC/DPT Home Page to ensure a cross flow of information.

### **Distance Learning**

The AFRC currently has some distance learning capability which includes its two way video and audio conferencing system (TNET) which is available at all Air Reserve bases. The interlinking of the TNET with the USAF’s Air Technology Network (ATN) downlink allows the reserves to receive programming from Air Education and Training Command (AETC), Air University (AU), Air Force Institute of Technology (AFIT), the Air National Guard (ANG) Warrior Network, and the Army’s TNET facilities and from civilian institutions.<sup>17</sup> This capability provides the opportunity for reservists to attend some courses that might otherwise be unavailable to them based on resident quota limitations or funding constraints. While this current distance learning capability provides many advantages, its limitations do not allow reservists to access training at the

time or place of their convenience. The reserves must continue to pursue additional distance learning capabilities that meet this requirement.

### **Need for a Better Distance Learning Solution**

Time, availability, and access will continue to be training problems for the Air Force Reserve. The predicted increase in non prior service accessions in the upcoming years will expand the training burden along with costs throughout the total Air Force system. Thus far, efforts by AFRC to reduce training requirements through the “just-in-time” proposal and the Training Reduction Working Group have been only marginally successful. Moreover, the success of the “Clearinghouse” concept can only go so far in reducing or eliminating training to the extent that it does not adversely impact on combat capability. Given these realities, the Air Force Reserve must look for new and innovative ways to manage the way it trains and educates its people. The success of the “Grassroots Academy’s” initial effort is testimony to the promise that technology holds for finding solutions to the reservist’s training problems. The growing number of distance learning programs available to reservists is also a positive trend. However, partial solutions are not enough.

I believe the AFRC senior leadership should put its full support behind a new vision and strategy to implement distance learning throughout the active component and the reserves in a manner that provides training anytime, anyplace. The USAF distance learning strategy is presented in the following chapter to assess its relevance and adequacy in meeting that requirement. It then serves as a departure point for recommendations on how the AFRC can reshape and revitalize the strategy to ensure its needs are accommodated.

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- <sup>7</sup> Air Force Instruction (AFI) 38-201, *Determining Manpower Requirements*, 13 May 94
- <sup>8</sup> Major Gen Robert A. McIntosh, Chief of Air Force Reserve, "Air Force Reserve," lecture, Air War College, Maxwell AFB, AL, 24 March 1998
- <sup>9</sup> Briefing, Air War College Instructional Period 4112, subject: The US Air Force Reserve and the Air National Guard, 4 March 1998.
- <sup>10</sup> Major Gen McIntosh Lecture
- <sup>11</sup> Major Gen McIntosh Lecture
- <sup>12</sup> Major Larry Lee, Chief, Training Support Branch (AFRC/DPTS), interviewed by author 27 March 98
- <sup>13</sup> Bo Joyner, "Balancing Act," *Citizen Airman*, 49, no.6, (December 1997) 5
- <sup>14</sup> Joyner, "Attacking the Training Problem," 3.
- <sup>15</sup> Briefing, HQAFRC/DPTS, subject: HQ AFRC Clearinghouse, 4 November 1997
- <sup>16</sup> Joyner, "Attacking the Training Problem," 4
- <sup>17</sup> Department of Defense, Reserve Component Programs, *FY 1996 Report of the Reserves Policy Board*, (Washington D.C.: Government Printing Office:1997) 55.



## **Chapter 3**

### **USAF Distance Learning Strategy**

The AFRC must ensure that its special training problems and requirements are considered in future active component USAF plans to further implement distance learning programs. The Air Force Distance Learning Office (AFDLO), which comes under AETC/EDD, is the USAF focal point for implementing distance learning policy and emerging distance learning technology. The AFDLO is the driving force behind the future direction of distance learning within the USAF. Therefore, it is essential to examine the AFDLO strategy in detail to assess its relevance to and adequacy for the reserve component.

#### **Distance Learning Plans**

The AFDLO has produced two planning documents related to implementing distance learning within the USAF. One planning document is an internal “AFDLO Strategic Plan.” This document was not officially distributed outside the AFDLO. The other planning document is “The Distance Learning Roadmap” which was in draft coordination as of March 1998. The purpose of the Roadmap as stated in the draft document is “to serve as an internal Air Force guide to investment and mission essential priorities for the Air Force Distance Learning Program.”<sup>18</sup> Neither of these AFDLO documents is an

overall USAF Strategic Plan for Distance Learning. Such an overarching plan does not exist at this time.

### **AFDLO Strategic Plan**

The AFDLO Strategic Plan includes the Air Force vision statement for distance learning which was adopted several years ago by USAF senior leadership. The USAF vision is to:

*“Establish distance learning as an integral part of the Air Force education and training system to increase efficiencies and learning opportunities for America’s Air and Space Force at the best time, based on sound instructional and economic criteria, using the proper mix of paper based and technological media.”<sup>19</sup>*

The vision statement needs to be updated. It should be visionary enough to inspire new development and to rally support for distance learning. It should stress the high tempo of military operations and the increasing importance of the total force commitment. The issue of “best time” should be qualified because the best time for the full time active forces may not be the best time for the reserve component as already illustrated in the previous chapter. To achieve the best results with distance learning, trainers, educators, administrators and students must pinpoint the best time and the best method for learning.

There are eight guiding learning principles identified in the AFDLO strategic plan. Some of the key ideas expressed in the learning principles are that distance learning should contribute to the education and training mission of the Air Force; that lifelong learning and the continuous development of skills and behaviors are important to success; that diversity of learners, learning needs, learning contexts and modes must be recognized; that learners and providers must be accountable and responsible in their

learning participation; that all Air Force members have a right to access learning opportunities; and that “the development of distance learning may require significant changes in the roles, responsibilities, and activities of education and training organizations and personnel, as well as of the learners themselves.”<sup>20</sup>

These principles are especially appropriate for a total force outlook. First of all, they recognize the diversity of learners and learners’ needs. The right to access learning opportunities is also an particularly relevant and important principle for the reserve component. These principles also establish the idea that significant changes in how students and educators view education and training will be required. This is important because managing change and overcoming resistance will be stumbling blocks for widespread implementation of distance learning. The reserves must ensure its people are ready to take on more personal accountability and responsibility for their own training.

Twelve assumptions that will influence the outcome of the strategic plan are also presented in the AFDLO document. Several of the key assumptions are that distance learning is effective and efficient; that leadership will support distance learning initiatives, “where they make sense;” that distance learning can reduce the current and projected education and training backlog; that distance learning will support informal training as well as formal course presentation; that many current traditional classroom courses can be transitioned to distance learning; that effective distance learning requires complete learner access to modes of delivery and other education resources; that a plan and infrastructure are needed; and finally that funds are limited.<sup>21</sup>

Once again, these assumptions have a great deal of relevance to the total force. Training backlog reduction, complete learner access and transitioning from classrooms

are all advantages that the reserve components hope to gain through distance learning. However, the condition of “where they make sense” that is placed on leadership support may be a cause for concern. In conversations with individuals in the Air Force distance learning community, including AFRC and other MAJCOM points of contact, I have detected a concern that senior leadership will allow distance learning implementation to go only so far. This is because the implications of a full distance learning capability would cost jobs and cause unit closures. In reality, this should be an advantage, not a drawback to distance learning since the bottom line is that distance learning can save the USAF money in the long term. The AFRC must be alert to decisions that curtail distance learning programs for reasons unrelated to the quality of the learning experience.

The assumption that distance learning will support informal courses as well as formal course presentation is also good news for the reserve components because a great deal of training is accomplished through informal means. The informal courses are usually developed outside of AETC channels, often at the unit level. Converting the informal training to distance learning methods will go a long way in helping reservists maximize their hands-on training time when they are present at their units. The bad news is, as later detailed, the current “roadmap” for the USAF does not take informal training into consideration in its programming plan.

There are three critical issues, defined as “major unresolved requirements preventing [USAF] from fulfilling our vision,” identified in the strategic plan.<sup>22</sup> They are customer awareness, resources, and education and training processes. Each of these three critical issues has associated strategic goals and underlying objectives.

The first goal, which is to create an environment that recognizes the value of distance learning, addresses customer awareness. The three objectives supporting this goal are to create an Air Force policy directive and distance learning instruction; create a distance learning publicity plan; and increase distance learning professional development programs for instructors and educators.<sup>23</sup>

Currently, the only formalized Air Force policy guidance on distance learning is AFI 36-2201, Training, Chapter 9 which outlines the responsibilities for the Air Staff and the MAJCOMs for implementing distance learning programs. According to this AFI, each MAJCOM must develop a distance learning plan which addresses how they facilitate distance learning programs originating from AETC or other sources. The plans are also required to address how to administer MAJCOM sponsored and/or developed distance learning programs. The distance learning programs within each MAJCOM differ in their levels of effort and stages of development. None of the MAJCOMS, including AFRC, have published their distance learning plans as of this writing. According to the AFDLO, the MAJCOMs are awaiting finalization of the “roadmap” before developing their own distance learning plans.<sup>24</sup> To date there is no published publicity plan but the AFDLO does have a home page on the Internet which provides current information on distance learning programs. The status of increasing distance learning professional development programs is unknown.

The second goal is to ensure availability of resources to meet education and training requirements. The supporting objectives are to assist the MAJCOMs in identifying their distance learning requirements and identifying shortfalls in manpower, money, and infrastructure.<sup>25</sup>

The AFDLO is working with the manpower organization AFMEA to determine manpower requirements for distance learning programs. Also, the AFDLO publishes a quarterly Distance Learning Guide that provides a directory of formal courses offered via distance learning. The MAJCOMs have been tasked to work resource requirement issues on their own. One initiative among the MAJCOMs is to adopt a standard distance learning center management plan based on the one developed and used by the Air Force Material Command (AFMC). The AFMC plan has been under evaluation since October 1997 by the MAJCOMs. Another meeting on the plan was scheduled for April 1998.<sup>26</sup>

The third goal is to ensure total force interoperability of all distance learning media. The associated objectives include participation in the Total Force Distance Learning Action Team (TFDLAT), and recommending and implementing total force standards.<sup>27</sup>

The TFDLAT, sponsored by the Deputy Under Secretary of Defense for Readiness, is a joint forum which focuses on the training requirements of the total force and defines ways in which advanced distributed technology can be used more effectively. The TFDLAT mission is to “ensure DOD will use interoperable distance learning technology when appropriate.”<sup>28</sup> Principal Air Force participants in the quarterly TFDLAT meetings are representatives from HQAF/DPPE, AFDLO, HQREPP (Reserve), AETC, AFIT and the ANG. A review of the TFDLAT minutes dating back to February 1997 reveals that AFRC/DPT has not been sending a representative to these meetings.

An important initiative in implementing total force standards is the Advanced Distributive Learning (ADL) initiative. The purpose of ADL is “to ensure access to high quality education and training materials that can be tailored to individual learner needs and can be made available whenever and wherever they are required.”<sup>29</sup> The ADL plan

calls for DOD to lead a collaborative effort with the public and private sectors. The impetus for ADL is to keep ahead of the rapid pace of technological change by creating a common open technical framework for computer and net based training. The focus of ADL is to eliminate stovepiped software in favor of new shared core software with tailored applications for particular uses. The ADL concept allows information technology to evolve while encouraging the exponential growth of knowledge assets and content. By ensuring that learning software is interoperable, accessible, durable and reusable, the ADL initiative will allow academic, business and government users to get the best value. The time frame for ADL that leads to collaborative development extends into mid 1999.

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The ADL initiative is related to the fourth goal listed in the AFDLO Strategic Plan which is to capitalize on appropriate technology. The objectives underpinning this goal are to monitor and evaluate mature and emerging technologies and education/training applications for emerging technologies. Another objective is to benchmark against industry and academia for distance learning initiatives.<sup>31</sup>

The AFDLO held an Industry Day in March 1998 to provide contractors who are engaged in developing distance learning technologies with information about what the USAF is doing with distance learning. The purpose of this was to describe the USAF education and training environment for contractors who might want to provide the USAF presentations on their proposed solutions. The response was overwhelming with about 100 companies represented. The AFDLO briefing given to the contractors pointed out that reserve and active duty delivery methods might be significantly different.<sup>32</sup>

While the Industry Day initiative is encouraging, there does not appear to be a serious benchmarking effort underway currently within USAF. This is not for a lack of benchmark candidates since there are many examples in industry and academia where distance learning has evolved to a point where it has virtually replaced traditional classroom instruction. One example is the IBM Thinkpad University. The Thinkpad University is a program at several institutions where IBM notebook computers are given to students and faculty which eliminates the conventional barrier of time and distance.<sup>33</sup> Since many industrial and academic institutions are dealing with student and trainee circumstances similar to those faced by reservists, it would be advantageous to pursue benchmarking more aggressively.

The final goal, to improve education and training efficiencies where practical and cost effective, focuses on the critical issue of education and training processes. The objectives of this goal include developing tools to measure and evaluate distance learning effectiveness; ensuring distance learning programs are based on sound instructional system design (ISD) principles; and incorporating appropriate technologies into education and training programs.<sup>34</sup>

This goal has not received a great deal of attention to this point although it is critical in providing evidence that distance learning can indeed provide quality education and training at a reasonable cost. There should be greater emphasis on finding success stories with quantitative and qualitative data within the USAF to illustrate this. The reserve component would be an ideal place to focus this effort.



## **The Distance Learning Roadmap**

The second planning document drafted by the AFDLO is the Distance Learning Roadmap. The Roadmap addresses three main areas. The first area is distance learning vision and mission. The second is program structure, operational concepts and specific technology plans. The third area is the investment plan for 2000-2005 FYDP and beyond. As previously stated, the Roadmap is meant to be an investment and priorities guide.<sup>35</sup>

In general, the Roadmap is a very inspiring document for generating support and excitement for distance learning. It cites several reports that support the value of distance learning for the USAF and its reserve components. It provides impressive examples of cases where industry, academia, and government agencies are using distance learning. It provides scenarios that advocate the need to invest in distance learning technologies. It even states that “distance learning technologies will deliver education wherever and whenever it is needed.”

Further examination of the Roadmap, however, reveals that only a portion of the planned distance learning implementation will actually have the capability to provide education wherever and whenever it is needed. For instance, the Roadmap outlines five education and training delivery options that the USAF is likely to use as it further develops its distance learning program. These delivery options include residential means with technology insertion, Internet based instruction (IBI), ATN Interactive Video Teletraining (IVT), Interactive Multimedia Instruction (IMI), i.e. interactive computer based instruction, and paper. Only the IBI, IMI and paper based options provide true flexibility to the individual for receiving distance learning at the time and place of their choosing. Resident training with technology insertion may reduce the duration of courses

but attendance will still be required. In the case of IVT, these broadcasts are real time and require the student to travel to a location that can receive the broadcast. The Roadmap is focused on distance learning options that revolve around a group audience paradigm. The special needs of citizen airmen who must schedule education and training around their full time civilian jobs dictates a need for maximum flexibility that can accommodate individual scheduling at a their own pace, at a time and location convenient to them.

The Roadmap also assumes that 500 of the 1500 active formal AETC education and training courses will be candidates for conversion to distance learning. This assumption is arbitrarily based on the U.S. Army experience in its distance learning program in which a third of its courses were found suitable for conversion. This also means it is assumed that 1000 AETC courses would not be available through distance learning, although technology insertion may be applicable for some.<sup>36</sup>

Additionally, the Roadmap only plans for AETC course conversions and it does not address any plan nor does it include funding estimates for conversions of MAJCOM formal courses. It is currently not known how many formal MAJCOM courses even exist, although the AFDLO has tasked each MAJCOM to submit a formal inventory. The Roadmap also does not give any consideration to plans for converting informal courses, such as ancillary training or OJT supplemental, that are taught at the unit level. Converting these courses could be a huge benefit for the reserve component as seen by the example of the “Grassroots Academy.”

The Roadmap states that the AFDLO is contracting to review all of its AETC education and training courses. This process will not likely be completed before the end

of calendar year 1999 since the contract has not yet been awarded. Under the contract all courses will be considered for either deletion, conversion to distance learning, technology insertion, a combination of media, or privatization and outsourcing. Resulting from this review, the AFDLO will develop an AETC Distance Learning Plan that will provide a framework for: 1) prioritizing course conversions based on education and training shortfalls, readiness requirements and economic return; 2) identifying infrastructure required to support migration to distance learning; (3) preparing an implementation plan to complete the distance learning system.<sup>37</sup>

According to the Roadmap, the resulting AETC Distance Learning Plan will form the baseline for the Initial Air Force Distance Learning Plan in FY99. It does not detail the focus of this follow-on plan, but it goes on to say that in FY00, the MAJCOMs will generate their own distance learning plans and that these will be consolidated by AFDLO in FY01 to form the Final Air Force Distance Learning Plan.

The Roadmap also states that “we achieve the ability to provide just in time training with a full up global Internet classroom by 2005. By 2013, with course conversions, the education and training system will be able to sustain a long term wartime training surge....”<sup>38</sup> However, despite this prediction of a global Internet classroom by 2005, the Roadmap still outlines a variety of media options as previously discussed. The indication seems to be that despite the advantages the Internet offers, such as world wide access, instant updates, simplified distribution, lower research and development costs, anytime, and anyplace capability, the AFDLO intends to only modestly investment in this option.

An important aspect of the Roadmap is its estimates of conversion and support costs for distance learning. According to sources used by AFDLO, interactive courseware

development requires 300 to 500 man-hours per course hour done in-house or between \$15,000 to \$30,000 per course hour by contract.<sup>39</sup> The AFDLO has projected \$98 million dollars for course conversion over FY00-05.

Support costs include such things as communications infrastructure, facilities, and manpower. These account for \$77.6 million, or 44 percent of the distance learning investment. The total projected funding of conversion and support costs for FY00-05 is \$175.6 million. For FY06-13 the investment is estimated at \$320 million. Annually over the first five year period, these total costs account for less than 1.2 percent of the AETC O&M education and training costs. A 1996 GAO report found the cost of formal military education and training to be \$72,546 per student in 1995, an increase of more than \$20,000 over the previous eight years.<sup>40</sup> A 1991 Air Training Command (ATC) contracted study determined that about \$51 million could be saved over a five year period by implementing a combination of distance learning systems for 47 ATC technical training courses.<sup>41</sup> According to the Roadmap, “the resources proposed to spend on distance learning implementation are small in comparison to the potential pay off.”<sup>42</sup>

## **Assessment Summary**

In the absence of an overarching USAF strategic planning document, the AFDLO Strategic Plan in combination with the draft Distance Learning Roadmap must be viewed as the current USAF strategy for implementing distance learning. Unfortunately then, the USAF has not clearly laid out a total force strategy that addresses all of the special needs of the reserve components. While the learning principles and assumptions in the strategic plan are suitable from a total force viewpoint, there is not always follow through in the Roadmap. The Distance Learning Roadmap is concerned mainly with conversion and

support for AETC formal courses. Though the Roadmap contains some extremely visionary prose, in substance it does not consider converting all formal and informal courses across the USAF. It also acknowledges that over two-thirds of the AETC courses will remain as resident offerings. The Roadmap lists the numerous advantages of IBI and CBT, yet those delivery methods that require attendance at a distant schoolhouse or local classroom still seem to maintain a predominant role.

Therefore, the promise of the Distance Learning Roadmap that training will be available anytime, anyplace is not upheld in a plan that places many limitations on providing this capability. This is a major drawback for the Air Force Reserve whose members require maximum flexibility as they work around civilian careers. Also, many of the training requirements that impact reservists as recurring informal course requirements are not addressed by the Roadmap. Therefore, the current USAF distance learning strategy must be refocused to address these issues. The AFRC must become a true partner with the AFDLO and become a catalyst in promoting and pursuing a Total Force Distance Learning System. The following chapter provides recommendations for the AFRC to reshape and revitalize the USAF distance learning strategy to accomplish this goal.

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<sup>18</sup> Air Force Distance Learning Office, "The Distance Learning Roadmap," (Draft), February 1998, 8.

<sup>19</sup> Ibid., 1

<sup>20</sup> Ibid., 3

<sup>21</sup> Ibid., 4

<sup>22</sup> Air Force Distance Learning Office, "Strategic Plan," 9 December 1997, 6

<sup>23</sup> Ibid., 7

<sup>24</sup> Minutes of MAJCOM Distance Learning POC Video teleconference, 10 Mar 98

<sup>25</sup> Air Force Distance Learning Office, "Strategic Plan," 8.

<sup>26</sup> Minutes of MAJCOM Distance Learning POC Video teleconference, 10 Mar 98.

<sup>27</sup> Air Force Distance Learning Office, "Strategic Plan," 9.

<sup>28</sup> Department of Defense, Reserve Components Programs, 54

<sup>29</sup> ADL Home Page Advanced Distributed Learning Home Page; On-line, Internet, 5 February 1998. available from [http://www.adlnet.org/about\\_adl/index.html](http://www.adlnet.org/about_adl/index.html).

<sup>30</sup> Ibid.

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- <sup>31</sup> Air Force Distance Learning Office, “Strategic Plan,” 10
- <sup>32</sup> Briefing, Air Force Distance Learning Office, subject: “USAF Distance Learning Industry Day,” 5 March 1998.
- <sup>33</sup> “On-line ‘Classrooms’ Revolutionize Technical Education.” IBM Higher Education. On-line. Internet, 3 February 1998. Available from <http://www.hied.ibm.com/news/bulletin/online.htm>.
- <sup>34</sup> Air Force Distance Learning Office, “Strategic Plan,” 11
- <sup>35</sup> Air Force Distance Learning Office, “The Distance Learning Roadmap,” 8
- <sup>36</sup> Ibid., 6
- <sup>37</sup> Ibid., 15
- <sup>38</sup> Ibid.
- <sup>39</sup> Ibid., 26
- <sup>40</sup> Ibid., 6
- <sup>41</sup> Ibid.
- <sup>42</sup> Ibid., 32

## Chapter 4

### Recommendations for Total Force Distance Learning

*“Training is the cornerstone of readiness.”<sup>43</sup>*

*- FY 1996 Report of the Reserves Policy Board.*

The previous assessment of the current USAF distance learning strategy has revealed that it is too restrained and does not meet the special needs of the reserve component. Therefore, AFRC senior leaders must step forward with a new vision that energizes the most senior level USAF leadership to embrace a Total Force Distance Learning System. “Anywhere, anytime” must become the training battle cry for distance learning. The Air Force Reserve must step forward to ensure that the money, time and effort spent on implementing distance learning is not wasted on delivery methods and infrastructure that do little to address the problems of time, availability and access for reservists. Additionally, the Air Force Reserve must ensure that course conversion priorities and designs take into account the special circumstances of the part time reserve force. The AFRC should form a partnership with the AFDLO to create a USAF Distance Learning Strategic Plan that builds on the framework already established in the AFDLO Strategic Plan. The following are recommendations for actions that should be taken to put distance learning at the forefront:

## **Senior Leadership Commitment**

The first step is to gain a strong commitment from USAF and AFRC senior leadership to support the implementation of a distance learning system that meets the requirements of the total force. Senior level leadership is critical in overcoming the resistance to change at lower levels of command and in facilitating coordination among agencies and directorates. If senior leadership does not come on strongly in favor of distance learning, the Air Force does not stand a chance of taking full advantage of its potential. Likewise, if senior leaders themselves dislike the notion of distance learning, then that message easily filters down in the absence of any senior level distance learning advocate.

My research has revealed that while there is a great deal of knowledge and proponency for distance learning within the USAF distance learning community, there is a serious lack of senior leadership involvement and commitment to it. For example, at the Air Force MAJCOM POC Distance Learning Conference in October 1997, a recurring theme raised by the participants was a lack of high level support to champion their efforts to implement distance learning programs within their MAJCOMS. Distance learning was proposed as a discussion item for CORONA in January 1998, but it was never placed on the final agenda. The AFDLO is making another attempt to place it on the June 1998 CORONA agenda.

The lack of commitment to and involvement in distance learning among senior officers is disappointing considering its capability to become a major force multiplier in this era of downsizing. As the reserves take on more missions in support of the active duty, total force issues must also come to the forefront. Distance learning is a key total



force issue and must be given the priority it deserves. The AFRC Executive Group has already proven its commitment to resolving the training burden by its effort in the training reduction area. I recommend the AFRC Executive Group refocus its interest in the area of distance learning initiatives and become the catalyst for leadership commitment among the active, guard and reserve forces.

I recommend that the AFRC Executive Group use the forum of the Air Reserve Forces Policy Council (ARFPC) to engage the USAF senior leadership in a dialogue on distance learning capabilities that address the special circumstances faced by reservists. The ARFPC is comprised of six General officers from the Guard, Reserve and Active components. The ARFPC has recently “bought into” the notion of a total force effort to develop a cross functional panel of members dedicated to reducing and preventing additional training burdens.<sup>44</sup> The timing is right for the AFRC to present a visionary model of distance learning to ARFPC that will mobilize support for a world class distance learning system that covers the entire spectrum of USAF training requirements.

### **Create a New Vision**

Once USAF and AFRC senior leaders make their commitment to distance learning they should revise the current Air Force distance learning vision statement. A panel of senior active, guard and reserve officers should meet to develop a new vision statement that conveys a total force perspective and focuses on the global nature of anytime, anywhere capability. The vision statement should keep everyone focused on where the USAF wants to go with distance learning. The vision should not be limited by current technology. Technology is advancing at phenomenal rates. A common mistake in

strategic planning is for organizations to envision themselves where they think they will be, instead of where they want to be.<sup>45</sup>

The Air Force Reserve wants to provide education and training to its citizen airmen anywhere, anytime in the 21<sup>st</sup> century. That must be the vision. If the AFRC settles for anything less, that is what it will get. The AFRC senior leaders should encourage the active USAF to play a role in focusing the technology advancements required to fulfill the vision. Perhaps such programs as the Cooperative Research and Development Agreements (CRDA) within the Aeronautical Systems Center (ASC) could be employed to promote distance learning technology research. The ASC Center for Excellence at Wright Patterson AFB, Ohio has cooperated with private industry and individuals on CRDA projects that provide mutual benefits for both sectors. The Major Shared Resource Centers within AFMC are immersed in simulation and modeling projects. These USAF research and development organizations may possibly be untapped sources for in-house development of distance learning technology advancements. Senior leadership commitment should rally the entire USAF community, not just AETC and the AFDLO, into exploring ideas and opportunities to promote the distance learning vision.

### **Reorganize for Success**

The AFDLO serves as the lead agent for distance learning within the Air Force, AETC and Air University (AU) according to AFI 36-2201, Training. This triple hatted role requires a great amount of time and energy according to AFDLO personnel. As part of the senior leadership commitment to distance learning, the USAF should raise the level of authority of the AFDLO and divest it of its AETC and AU distance learning

responsibilities. This will prevent conflicts of interest as well as eliminating the problem of lines of authority.

The AFRC should establish a permanent focal point to be responsible for developing and implementing the distance learning strategic plan. I recommend that the Professional Development Center (PDC) which organizationally became aligned under AFRC/DPT as of April 1998 be designated as the focal point within AFRC for distance learning. The PDC has been involved in course execution and curriculum development for AFRC since 1992. Its in-house expertise will be valuable as the USAF maps out its strategy for distance learning. The two AFRC/DPT personnel authorizations approved in FY98 for distance learning should be transferred to the PDC. The PDC can provide the strong and unified voice that the AFRC needs to ensure its interests are guarded.

### **Plan to Plan**

Once senior leadership has come on line with its full support and commitment as evidenced by a revised vision statement and a reorganization within the AFDLO and the PDC, work can begin on the USAF Distance Learning Strategic Plan. This should be a joint effort of the AFDLO, the PDC and the other MAJCOMs.

Tasks and milestones should be established by the team. The planning should include an in depth review of all current distance learning initiatives within the USAF, other services, industry, academia and government. Concurrent with this review, a needs assessment should be accomplished. An inventory of all current courses offered within the AFRC should be performed. This requirement should be partially fulfilled by the current effort underway as part of the "Clearinghouse" initiative.

A technology survey should be accomplished to determine the level of computer literacy and ownership within the force. The Extension Course Institute survey designed for this purpose could be used. The most important needs assessment is to determine the appropriate technology that best meets the need of our reservists.

There must be constant oversight of the distance learning strategy to ensure that actual progress is compared to the progress expected in the plan. Within the Reserve, this should include review by the most senior reserve leadership. The AFRC/CV should insist on periodic briefings to update the status of the plan. Monthly progress reports should be provided as well. Deadlines must be established and milestones charted. Accountability must be maintained to ensure the program is kept on track. A quarterly newsletter on distance learning initiatives and strategic planning progress should be widely disseminated. The PDC already has a web site that can be used to publicize the plan and other distance learning initiatives. The web site should have a built in feedback mechanism. Input to the plan should be highly encouraged and sought. The ANG has an excellent idea in its monthly Integrated Process Team (IPT) meetings in which members are invited to attend. Distance learning technology should be used to the maximum extent in holding meetings or disseminating information.

### **Develop a Model**

While the AFDLO has taken the Army approach in hiring a contractor to review the AETC formal courses for elimination, condensation or conversion, I recommend a different approach that centers more on the trainees rather than the courses. I propose that the USAF pursue a contract to convert one or two test AFSCs to a total distance learning training plan. The first step would be for the contractor to identify all of the

current career-long training requirements for individuals in the test AFSCs. This would include all of the required courses from initial skills training through attainment of a seven skill level. Both formal and informal courses would be included, as well as ancillary requirements. Secondly, the contractor would review all of the identified courses for conversion media with maximum emphasis on methods that allow training to occur anyplace, anytime. Third, the USAF would then contract to actually convert all of these training requirements for the test AFSCs. Finally, once the courses were available, test subjects would be put through the distance learning training programs to validate them. This test case or model approach would have the advantage of involving the customers since the contractor would be working directly with unit level supervisors, trainers and trainees on what the actual training requirements should be. The model would also demonstrate a practical application, and form the basis for a direct comparison of individuals trained by distance learning versus the traditional methods. Feedback and lessons learned could be applied before proceeding with future conversions. The results of this approach would create a more realistic picture of distance learning application. This model approach would also be useful in revealing the infrastructure, administration and management requirements of an extensive distance learning program since these aspects could be modeled at the same time the test program was developed.

### **Benchmarking**

A very beneficial approach for the AFRC to take in developing its model would be to draw on the distance learning programs and initiatives of the private sector and the other military services. This practice of benchmarking has previously been mentioned as an area that has not been given a great deal of emphasis. I propose that the AFDLO and

AFRC pursue benchmarking against private and public institutions that rely mainly on web based instruction. The Internet should be the technology of choice for the reserves because it has the advantage of bringing training into a reservist's home. Training can then be accomplished at the reservists convenience. The Internet also has the advantage of requiring less infrastructure than other distance learning delivery media.

The current limitations of bandwidth, however, place restraints on the type of course material that can be transmitted to students via the Internet. While graphs, still photos and prints are easily distributed over the Internet, video and sound transmission are more difficult because of the amount of information that has to travel to deliver high quality. The information "chokes the capacity of the computer" and therefore videos may look choppy.<sup>46</sup> However, advances are being made that may improve this capability.<sup>47</sup>

For now, a Total Force Distance Learning System that allows training to occur anytime, anyplace may have to be a "hybrid" distance learning system that delivers training over the Internet whenever practical, but is supplemented by discs (CD-ROM) that contain the material unsuitable for Internet transmission. This hybrid system would have the advantage of providing updated information via the Internet, as well as keeping infrastructure and administration overhead to a minimum. Students would have possession of the discs and therefore, would still be able to accomplish training at their convenience. The hybrid system would still provide maximum flexibility in scheduling. The current efforts underway in the AFRC "Grassroots Academy" initiative dovetail nicely into this hybrid system.

Contractor support, outsourcing and privatizing should all be considered in developing the Total Force Distance Learning System. Partnering with the public

education sector and exploiting commercial and civilian resources must all be considered. The ADL project is evidence that the entire Department of Defense supports a collaborative effort with the public and private sectors for advancing distance learning capabilities.

The AFDLO and the AFRC should look to the other services as well for ideas and lessons on distance learning. The Army has a formal implementation plan, the Army Distance Learning Program Master Plan (ADLP-MP), which was approved in April 1996. The Navy established its Office of Training Technology (OTT) in 1995 to address training technology issues and initiatives. The Marine Corps Training Modernization Initiative included the formation of a Distance Learning Branch within its Combat Development Command. According to Lt Col Steven M. Jones, Head of the Distance Learning Branch, the Marines intend to establish a network-centric (primarily web-based) distance learning system supported by VideoTeletraining (VTT). This system is known as the Marine Corps Learning Network or MarineNet. The Air National Guard (ANG) also has a robust distance learning program built around its Warrior Network.

In addition to the distance learning focal point offices within each of the services, there are many other military and civilian units, agencies, and individuals involved in distance learning programs and initiatives. There are hundreds of distance learning sites on the world wide web. The AFDLO and the AFRC should formalize a cooperative process to survey and explore the distance learning environment for new and better ways to provide distance learning to the total force.

## Conclusion

The benefits of distance learning for the active USAF and its reserve components demand a redirection of USAF distance learning vision and strategy. Distance learning is the best solution to address the training problems of time, availability and accessibility for part time reservists as well as the active force. The AFDLO and AFRC should cooperate to ensure that emerging technologies are harnessed to provide a capability that can provide training anytime, anyplace. Senior leadership from both the active and reserve components must come on board to revitalize the vision of distance learning and to formulate a strategy that will lead to a world class Total Force Distance Learning System.

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<sup>43</sup> Department of Defense, Reserve Component Programs, xxiv.

<sup>44</sup> Briefing, HQ AFRC/CS, subject: Training Reduction Briefing ,26 JAN 98

<sup>45</sup> Jonathan E. Zall, "Strategic Planning: Why Do It and Why Not Do It Better?" Air Force Journal of Logistics 21, no.2 (Spring 1997): 30.

<sup>46</sup> Karen Mantyla and J. Richard Gividen, *Distance Learning A Step by Step Guide for Trainers* (Alexandria, Va.: ASTD Publications Dept., 1997), 46-47.

<sup>47</sup> Ibid.



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